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REMARKS

As a preliminary matter, Applicant wishes to note that this Amendment is being submitted in response to an Office Action dated January 9, 2001. Since Applicant had not previously responded to the Office Action within the statutory period of six months, i.e., by July 9, 2001, the Application was held abandoned. Accordingly, the Examiner mailed a Notice of Abandonment dated October 25, 2001 to the undersigned firm, who currently has a power of attorney from the inventor. A petition to revive the abandoned application under 37 C.F.R. § 1.137 (b) due to an unintentional abandonment has been filed concurrently with this Amendment.

Applicant's failure to respond to the Office Action within the statutory period was due to the mailing of the Office Action to Applicant's previous counsel, and a failure of such counsel to forward the Office Action to the Applicant or Applicant's current attorneys. The enclosed Notice of Abandonment was forwarded to the Applicant's current attorneys on the basis of an appearance made by Applicant's current attorneys in the present application by responding to a Restriction Requirement in the above referenced application. Neither Applicant nor his current attorneys had knowledge of the Office Action until the Notice of Abandonment had been received by Applicant's current attorneys on October 29, 2001. Subsequent to receiving the Notice of Abandonment, Applicant has worked diligently in consultation with his current attorneys to prepare the following Amendment in response to the Office Action. Thus, any delay in receipt of the Office Action and in the preparation of this submission was unintentional. Applicant believes that this response, in combination with the accompanying petition and fee, satisfies the provisions of 37 C.F.R. § 1.137(b).

Claims 1-16 are pending in the application. Claims 1-3, which were elected in response to the Restriction Requirement, are rejected. Claims 4-16 are withdrawn from consideration.

Election/Restriction

The Examiner has withdrawn claims 4-16 from further consideration as being drawn to a non-elected invention. The Examiner's Restriction Requirement was traversed by the Applicant,

but the Examiner does not find the basis for traversal to be persuasive. Applicant will accept the Examiner's conclusion and will find at least one divisional application directed to the claims drawn to the non-elected invention.

Double Patenting

Claims 1-3 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent 5,751,338 (*Ludwig I*) in view of U.S. Patent 5,382,972 (*Kannes*). With regard to claim 1, the Examiner finds in *Ludwig I* all of the claimed subject matter, but for the teaching of a multimedia central office configured to combine captured video images of at least three users into a mosaic image. The Examiner looks to *Kannes* for a teaching of a conference system for interactive video and audio, where there is a mosaic image reproduced. This rejection is traversed.

Claims 1-3 are rejected under the judicially created doctrine of obviousness-double patenting as being unpatentable over claim 1 of U.S. Patent 6,081,291 (*Ludwig II*), in view of U.S. Patent 5,382,972 (*Kannes*). Again, the Examiner finds in *Ludwig II*, a disclosure of all of the subject matter in pending claim 1 but for the teaching of a multimedia central office configured to combine captured video images for at least three users into a mosaic image for reproduction at a workstation of at least one user. *Kannes* is cited for its teaching of a conference system for interactive video and audio where a mosaic image is reproduced. This rejection is traversed.

The basis for traversal is that the present invention is directed to a public interactive video conferencing network environment that (1) employs a variety of access technologies to (2) aggregate user traffic so as to economically match a wide range of user endpoint and premises video networks to (3) the best price and performance points of wholesale third-party wide area network bandwidth, and further here (4) specifically providing the capability of producing a mosaic of images from a plurality of workstations that may be distributed over a wide area switched network. Neither *Ludwig I* nor *Ludwig II* concern such wide area switched network, but instead are concerned with local traffic aggregation networks. Similarly, *Kannes* is not concerned with a wide area switched network, but only with the generation of mosaic images in

a system confined to a premises network, such as a courtroom in a single facility. Moreover, the *Kannes* local area network is a pure analog system that does not contemplate the switching of digital data along with video and audio multimedia information. There is no teaching or suggestion in any of the references with regard to how the interactive teleconferencing system may be implemented using a mosaic feature when communication is conducted across a wide area or public switched network, particularly a digital network, as clearly suggested by the claims.

Claim Rejections - 35 U.S.C. § 112

Claims 1-3 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The Examiner argues that in claim 1, the term “and/or” is vague and indefinite. The Examiner rejects claims 2-3 because of their dependency on claim 1. This rejection is traversed.

The phrase “and/or” has a clear meaning in the English language and is intended to cover two or more elements considered separately as well as such two or more elements considered together. With regard to claim 1, the present disclosure clearly supports the capability at user workstations for video and audio capture and reproduction as well as video sync and display capabilities. Such capabilities may be present in any given workstation in a combination of all such capabilities or only certain selected ones of such capabilities. The claim is intended to cover such possibilities. Moreover, the phrase “and/or” is defined in the Merriam-Webster Dictionary as “a function word used to indicate that two words or expressions are being taken together or individually”. Thus, this phrase is generally accepted and has a clear meaning in the English language. Finally, Applicant submits that the use of the word “or” alone has the risk of misinterpretation, as indicated in the recent federal circuit decision in Kustom Signals, Inc. v. Applied Concepts, Inc., 60 USPQ2d 1135 (Fed. Cir. 2001) where the Court interpreted the term “or” in the claims to define a system in which the operator chooses to search for the strongest signal or fastest target speed, but not both. Because of the risk of using the word “or” alone, and the well accepted meaning of the phrase “and/or,” Applicant respectfully submits that “and/or” is appropriate in the present claim language.

Claim Rejections - 35 U.S.C. § 102

Claims 1-3 are rejected under 35 U.S.C. § 102(e) as being anticipated by *Friedell et al* (5,491,508).

The present invention stands as an improvement over the subject matter disclosed in the earlier *Ludwig I* and *Ludwig II* patents, whose respective disclosures are similarly focused on the implementation of a video teleconference aggregation network linking a plurality of individual workstations and workstations interconnected by a local area network into a larger community before accessing wide area transport. The present invention teaches a system that extends beyond each local area network and included an aggregating "Multimedia Central Office" that links the aggregate community with a wholesale wide area public switched network. The use of a wholesale, raw bandwidth wide area public switched network and the deployment of the aggregation access network provides significant technical barriers, not the least of which is a lack of uniformity in the network infrastructure and plant, and the wide spread use of otherwise low capacity communication links, such as UTP. The focus of the claimed invention on providing this aggregation function between a community of premises networks and wide area public switched networks would be clear to one skilled in the art from the language of claim 1, where the physical diversity of the network ("communication services to one or more premises") and the complex switching structure ("multimedia central office" which is clearly understood by one skilled in the art to encompass a large public or private switched network) is expressly stated. Indeed, the multimedia central office of claim 1 connects "a first network" and "at least another workstation not associated with the network". The reach of the claimed system beyond the single local area network, or even such networks linked directly to a wide area network, is clear from this language.

Further, the claim expressly states that the central office is operative to transceive audio/video and digital data signals. This capability is evident from the illustration of the system in Figs. 2-10 where switching is undertaken for the multimedia content (audio and visual) as well as the control data. Thus, the transport of the multimedia information throughout the system is conducted by accompanying such information with the overhead data related to at least one of

the source, path and destination of the transmitted signals. In the environment of a mosaic, this means that the delivery and assembly of images along with accompanying audio are accomplished by transmitting the digital switching information along with the multimedia content. This also means that information from one source may be sent by separate paths through a switched network, and accurately reassembled at a desired destination.

The *Friedell et al* reference is clearly limited to a local area network arrangement. As evident from Fig. 1, while a plurality of workstations 10 are nested around respective hubs 14, which are interconnected via expansion ports 18 that carry the multimedia content (audio and video), all of the data relating to the operation of this system is carried by a separate LAN 12 that directly connects all of the workstations 10. Clearly, such system must be confined to a local premises, as the LAN 12 in *Friedell* is not disclosed as being switchably connected to other networks or workstations. *Friedell* has no teaching or recognition that its system may be implemented in a wide area or public switched network.

Even if the Examiner attempts to read the disclosure of *Friedell et al* on the switched network system of claim 1, such comparison would fail because there is no “multimedia central office” nor a “first premises network” with a separate “user workstation” in *Friedell*. The Examiner asserts that a local hub 14 would be such multimedia central office, but such assertion misses the mark. The limitation in the claim that the central office transceives digital data signals (i.e., switching signals and other overhead) is missing from the reference. Figure 1 of *Friedell* clearly shows that digital data signals are transported separated via LAN 12 rather than through the hub 14. Further, *Friedell* teaches only a single network within which all workstations are connected via LAN 12, rather than a network connected to a central office which is further connected to another workstation.

It appears that the Examiner recognizes this distinction because the Examiner’s rejection of claim 3 as being anticipated (i.e., all limitations in the claim are in the reference) fails to identify the limitation “public digital network” in the reference. Similarly, the ability of the multimedia central office to combine captured video images of at least three users (one of which

would be in the “other workstation not associated with the network) into a mosaic image is expressly recited in claim 2 but not identified in the Examiner’s comparison with *Friedell et al.*

On the basis of the foregoing, Applicant respectfully submits that claims 1-3 are patentable over *Friedell et al.* Moreover, it would not be obvious to convert *Friedell* into a wide area network because the problems confronted in such conversion and the solutions to those problems are nowhere suggested in the reference.

Claim Rejections - 35 U.S.C. § 103

Claims 1-3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ng et al* (5,473,363) in view of *Kannes* (5,382,972). The Examiner looks to the *Ng* reference for a teaching of the general structure of the claimed system but admits that it differs from the claimed invention by not teaching the multimedia central office configured to combine captured video image of at least three users into a mosaic image. The Examiner looks to *Kannes* for such teaching. This rejection is traversed.

The *Ng et al* reference has been recognized by the Examiner as having deficiencies in its teachings. Indeed, *Ng* teaches only digital MCUs linked by digital transmissions (H.32x-family digital video throughout at col. 3, lines 8-10) where the MCU function is decentralized. Indeed, the entire focus of the *Ng* patent, as emphasized at col. 1, lines 48-51 and in Figs. 1-8, is the achievement of a decentralized MCU system. *Ng*’s decentralized MCU elements provide only video switching functions and do not provide a video mosaic or mixing in a PIP form, as clearly acknowledged by the Examiner. For example, at col. 2, line 63, the patent states that the distributed MCU protocol provides that the video of the present speaker is seen by all others and the video of the previous speaker is seen only by the present speaker. Also, at col. 3, lines 5-15 with reference to Fig. 3, the patent teaches that the system is a daisy chain arrangement in which “each MCU is connected at most to two other MCUs, thus forming a chain, and each MCU is connected to a single terminal....In FIG. 3, at any instant of time, the control of audio mixing and video switching can be reduced to three MCUs of interest (present speaker’s MCU, loudest speaker on one side of that MCU and loudest speaker on the other side of that MCU).” The detailed rules for video processing are disclosed at col. 6, line 32 and, as recognized by the

Examiner, that disclosure contains no teaching of a mosaic capability. Applicant submits that none would one be contemplated in the disclosed arrangement in *Ng*.

The clear deficiencies of *Ng* requires the Examiner to look to *Kannes* for a supplemental disclosure. However, *Kannes* suffers from the same deficiency as *Friedell*, the reference being focused on a local and centrally controlled distribution network. Specifically, the preferred embodiment concerns a "courtroom" application where plural stations 11-14 having cameras C1-C4 are within a local courtroom environment and there is one remote station 15 having a camera C5 for a defendant. The system is controlled by a centrally located operator 6 (fig 2). As seen in Fig. 5, there is an analog PIP device 120 that can combine images from all five cameras, including an image from camera C5 via a direct link to video switcher 118. The design of the MCUs that provide this local function is disclosed at col. 9, lines 24-40 and col. 9, line 62-col. 12, line 7. In Fig. 7, there is a digital PIP device 220 that can combine images that are input directly from all 5 cameras. The design of the digital MCUs are described at col. 17, line 1-col. 19, line 10. For the digital design, control signals are distributed among the MCUs via a local IM Bus 480. However, whether the MCU is analog or digital, all of the connections, particularly the control connections, are confined to a local network. For both the analog and digital MCU designs, even though the defendant is located in another location 15, the connection is not via a wide area network nor is it switched through a multimedia central office, as that term would be understood to relate to non-local switching. Even the connections 70 and 71 to the remote location are via analog microwave links, and do not include control signals. Indeed, nowhere in *Kannes* is there digital control information transmitted with the audio and video signals from one network to another. Terrestrial link 51 is simply a telephone line to allow a defendant to call his lawyer. Moreover, there is no teaching of how the output of the terminals 11-14 may be converted to a long-distance communication via a switched network. In short, there is no teaching or suggestion that *Kannes* may be applied to a wide area network or otherwise a system where a network having a plurality of workstations may be connected through a multimedia central office to at least one other workstation with video, audio and data being connected to the central office.

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/471,577

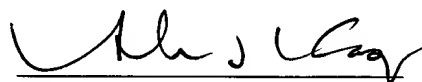
Thus, both *Kannes* and *Ng* are focused only on local area networks and, at best in combination, would consider only an analog network transmission capability. However, the two references, even if combined, are incompatible because they take different approaches to a network architecture. *Ng* is directed to a decentralized system, while *Kannes* is a centrally controlled system. One of ordinary skill would not look to combining these two systems because of this different focus.

On the basis of the foregoing differences between *Ng* and *Kannes*, it would take an unacceptable amount of hindsight to combine their teachings into a system that is even close to the presently claimed invention. Moreover, even if combined, it would not achieve the present invention, as there is no disclosure of a multimedia central office having the connections as claimed. Accordingly, the Examiner is respectfully requested to acknowledge the deficiencies in the teachings of the two references and to withdraw rejection of claims 1-3 on the basis of *Ng* and *Kannes*.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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